

What is claimed is:

1. A recording medium having a data structure for managing reproduction of video data recorded on the recording medium, comprising:

at least one navigation area storing navigation management information for managing real-time reproduction path video data recorded on the recording medium; and

wherein said navigation management information includes at least one navigation unit comprising a plurality of video data packets and a plurality of real-time navigation packets.

2. The recording medium of claim 1, wherein said at least one navigation unit having a plurality of transport packets.

3. The recording medium of claim 1, wherein each of said plurality of video packets has a packet identification code that is different from each of said plurality of real-time navigation packets.

4. The recording medium of claim 3, wherein the packet identification code for each of said real-time navigation packets is recorded in a transport packet header for each of said plurality of real-time navigation packets.

5. The recording medium of claim 1, wherein each said plurality of real-time navigation packets are sequentially recorded in the at least one navigation unit.

6. The recording medium of claim 5, wherein the plurality of sequentially recorded real-time navigation packets is recorded in a head portion of a corresponding at least one navigation unit.

7. The recording medium of claim 5, wherein the at least one navigation unit includes a fixed number of transport packets.

8. The recording medium as recited in claim 2, wherein each of said plurality of real-time navigation packets are divided into a corresponding number of transport packets, at each transport packet having a recording size of 188 bytes.

9. The recording medium as recited in claim 1, wherein each of said plurality of real-time navigation packets includes a header portion and a payload portion.

10. The recording medium as recited in claim 9, wherein the header portion of each of said plurality of real-time navigation packets includes a packet identifier code, and a payload unit start indicator.

11. The recording medium as recited in claim 9, wherein the payload portion of each of said plurality of real-time navigation packets includes real-time navigation data.

12. The recording medium as recited in claim 1, further comprising at least one real-time navigation table for storing a plurality of real-time navigation packets each having the same packet identification code.

13. The recording medium as recited in claim 12, wherein said real-time navigation table includes a general information portion and at least one real-time playback information portion;

wherein said general information control portion identifies the number of real-time playback information portions contained within the at least one real-time navigation table.

14. The recording medium as recited in claim 12, wherein said at least one real-time navigation table includes a plurality of real-time navigation sub tables for holding a plurality of real-time navigation packets each having a common packet identification code.

15. The recording medium as recited in claim 1, wherein said plurality of real-time navigation packets are discontinuously recorded in the navigation unit.

16. the recording medium as recited in claim 15, wherein said discontinuously recorded plurality of real-time navigation packets are interleaved.

17. the recording medium as recited in claim 16, wherein said plurality of discontinuously recorded real-time navigation packets includes a variable number of transfer packets recorded in the navigation unit.

18. The recording medium as recited in claim 1, wherein each of said plurality of real-time navigation packets includes a header portion and a real-time navigation section data portion.

19. The recording medium as recited in claim 18, wherein said header portion of each of said plurality of real-time navigation packets includes a packet identification code.

20. The recording medium as recited in claim 18, wherein said header portion of each of said plurality of real-time navigation packets includes a synchronization byte.

21. The recording medium as recited in claim 18, wherein said header portion of each of said plurality of real-time navigation packets includes a payload unit start indicator which associates the header portion with said real-time navigation section data portion of the same real-time navigation packet

22. The recording medium as recited in claim 1, wherein each of said plurality of real-time navigation packets are physically aligned with at least one corresponding physical recording unit of the recording medium.

23. The recording medium as recited in claim 22, wherein said physical recording unit is of a fixed size.

24. The recording medium as recited in claim 22, wherein each of said plurality of real-time navigation packets includes a plurality of transport packets physically aligned with more than one corresponding physical recording unit of the recording medium.

25. The recording medium as recited in claim 22, wherein each of the plurality of real-time navigation packets are physically aligned with a at least one corresponding file system allocation unit.

26. The recording medium as recited in claim 25, wherein each of the plurality of real-time navigation packets are physically aligned with more than one corresponding file system allocation unit.

27. The recording medium as recited in claim 22, wherein each of said plurality of real-time navigation packets includes a plurality of transport packets physically aligned with at least one corresponding physical recording unit of the recording medium.

28. The recording medium as recited in claim 22, wherein each of said plurality of real-time navigation packets is aligned with more than one physical recording unit of the recording medium.

29. The recording medium as recited in claim 22, wherein each of said plurality of real-time navigation packets is aligned with at least one error correction code physical recording area.

30. The recording medium as recited in claim 22, wherein each of said plurality of real-time navigation packets is aligned with more than one error correction code physical recording area.

31. The recording medium as recited in claim 22, wherein each of said plurality of real-time navigation data is physically aligned with a corresponding physical unit of the recording medium, including an error correction code allocation unit.

32. The recording medium as recited in claim 31, wherein each error correction code allocation unit contains 32 file system allocation units.

33. The recording medium as recited in claim 31, wherein each error correction code allocation unit is aligned with a plurality of alignment units, wherein each alignment unit contains three sectors.

34. The recording medium as recited in claim 31, wherein each of said error correction code allocation units includes a plurality of error correction code areas, corresponding to a plurality of alignment units, which in turn correspond to a plurality of section units which correspond to a plurality of transport packets representing the real-time navigation data.

35. The recording medium as recited in claim 1, wherein said navigation unit includes a header area, said header area of said navigation unit having a start flag and information indicating the position and number of the plurality of real-time navigation packets contained within the navigation unit.

36. A method of recording a data structure for managing reproduction of real-time navigation video data on a recording medium comprising:

recording navigation management information for managing real-time navigation video data in at least one navigation area of the recording medium; and

recording at least one navigation unit having a plurality of video packets and real-time navigation packets, each of said plurality of real-time navigation packets having a package identification number different from each of said plurality of video packets.

37. A method of reproducing a data structure for managing real-time navigation video data recorded on a recording medium comprising:

reproducing navigation management information for managing real-time navigation video data from at least one navigation area of the recording medium; and

reproducing at least one navigation unit having a plurality of video packets and real time navigation packets, wherein each of said plurality of real-time navigation packets have a packet identification number different from each of said plurality of video packets.

38. An apparatus for recording a data structure for managing reproduction of at least real-time navigation video data on a recording medium comprising:

- a driver for driving an optical recording device to record data on the recording medium;

- a coder for encoding at least real-time navigation video data; and

- a controller for controlling the driver to record the encoded real-time navigation video data on a recording medium, the controller for controlling the driver to record real-time navigation management information for managing reproduction of the real-time navigation information in at least one navigation unit; and

- the controller for controlling the driver to record a plurality of real-time navigation packets in the at least one navigation unit and for recording a plurality of video packets, wherein each of said plurality of real-time navigation packets has a packet identification number that is different from each of said plurality of video packets.

39. An apparatus for recording a data structure for managing reproduction of real-time navigation data recorded on a recording medium, comprising:

- a driver for driving an optical reproducing device to reproduce data reported on the recording medium;

- a controller for controlling the driver to reproduce navigation management information for managing real-time navigation data from at least one navigation unit of the recording medium; and

the controller for controlling the driver to reproducing a plurality of video packets recorded on the recording medium using a plurality of real-time navigation packets contained within the at least one navigation unit, wherein each of said real-time navigation packets has a packet identification number that is different from each of said plurality of video packets.